

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Offic**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/036,458	03/06/98	ANGELOPOULOS	M Y0998-086

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 EXAMINER

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ART UNIT	PAPER NUMBER
	1714

DATE MAILED: 02/26/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No. 09/036,458	Applicant(s) Angelopoulos et al.
Examiner T. Yoon	Group Art Unit 1714

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- Responsive to communication(s) filed on _____.
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- Claim(s) 1 - 19 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- Claim(s) _____ is/are allowed.
- Claim(s) 1 - 19 is/are rejected.
- Claim(s) _____ is/are objected to.
- Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on _____ is approved disapproved.
- The drawing(s) filed on _____ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- All Some* None of the CERTIFIED copies of the priority documents have been received.
- received in Application No. (Series Code/Serial Number) _____.
- received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- Interview Summary, PTO-413
- Notice of References Cited, PTO-892
- Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Other _____

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The specification is objected since it states Tables 1 and 2 at page 21, but there is no Table in the specification. The table must be in the specification and the tables in form of appendix after abstract is improper. Applicant has been using this practice in the past, and a proper formation of the specification is urged. Some corrections are needed. For example, at page 19, line 3, "O." does not make sense. Also, line 9, "acids" should be "Acids" and "--- the polymerization reaction other hydrochloric acid." does not make sense. Also, line 11, " " (period) is missing after "so on".

Claims 21-25 have been renumbered as 14-19 under Rule 126.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating an electrically conducting polymer with a fluorinated solvent, does not reasonably provide enablement for polymerizing monomers in the presence of a fluorinated solvent. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The specification failed to teach a process of polymerizing monomers in the presence of a fluorinated solvent.

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The recited “substituted” in claim 3 is rejected since the claim is not commensurate in scope with enabling disclosure until the named groups for substituted as described in the specification are recited in the claim for “substituted”.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited process of polymerizing monomers in the presence of a fluorinated solvent in various claims lacks an antecedent basis in the specification. In claim 7, the recited “---- polymer; during neutralization of said ---- of said electrically conductive polymer.” does not make sense. Claims 12 is incomplete.

In claims 14 and 15, the recited “each R¹” lacks antecedent basis. The recited “said nonreduced or nonoxidized form” lacks antecedent basis. Also, the recited “y has a value from less than 0.5 to 0 said oxidized form” does not make sense, and improperly broadens the scope of claim since y is defined as a value of 0.5. The recited “y has a value from greater than 0.5 to 1 for said reduced form” improperly broadens the scope of claim since y is defined as a value of 0.5. Claim 15 is indefinite since there are no definitions for Q and A. Improper Markush language is

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recited in claim 17, and a proper format is “---from the group consisting of A, B and C”. In claim 18, line 3, “siad” should be “said”.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 14 and 15 recites the broad recitation $x \geq 1$, and the claim also recites preferable $x \geq 2$ which is the narrower statement of the range/limitation.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

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has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 and 16-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jonas et al (US 4,902,573).

Jonas teaches the instant invention at col. 5, lines 16-41 wherein the use of fluorinated hydrocarbons and a mixture of thereof are taught.

Thus, applicant's invention lacks novelty, any alternative such as less than 5 weight % in the instant claim 9 and a mixture of solvents in claim 16 are obvious modifications to one of ordinary skill in the art at the time of invention since Jonas teaches mixtures of solvents and since Jonas teaches 2 to 10 % and since choosing a range within a range is a *prima facie*.

Claims 1-4, 9-12, 17 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Traynor (US 4,629,798).

Traynor teaches a solution of polypyrroles in fluorinated hydrocarbons and films thereof at col. 7, lines 35- 51.

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Thus, applicant's invention lacks novelty, any alternative such as less than 5 weight % in the instant claim 9 is an obvious modification to one of ordinary skill in the art at the time of invention since Traynor teaches less than 10 parts by weight of polypyrrole in 100 parts by weight of solvent.

Claims 1-4, 6, 7, 9-12 and 16-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ikenaga et al (US 4,772,421).

Ikenaga teaches the instant polymerization in examples 6-12. Conductive precursors and polymers are taught at col. 3, lines 8-21.

Thus, applicant's invention lacks novelty, any alternative such as polyaniline is an obvious modification to one of ordinary skill in the art at the time of invention since Ikenaga teaches various precursor polymers and conducting polymers thereof and since polyaniline is art well known conducting polymer (or precursor).

Claims 1-4, 9-15 and 17-19 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tan (US 5,863,658).

Tan teaches solutions of doped polyanilines in various solvents such as hexafluoroisopropanol and blends thereof at col. 1, line 63 to col. 2, line 6.

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Thus, applicant's invention lacks novelty, any alternative such as film is an obvious modification to one of ordinary skill in the art at the time of invention since Tan teaches conductive film in abstract and since film or fiber of conductive polymers is well known in the art.

Claims 1-4, 6, 7 and 9-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over EP 0315514.

EP teaches the instant polymerization of aniline in the presence of mixed solvents such as NH₄F and HF in abstract.

Thus, applicant's invention lacks novelty, any alternative such as less than 5 weight % in the instant claim 9 obvious modifications to one of ordinary skill in the art at the time of invention since choosing workable concentration is considered a routine in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (703) 308-2389. The examiner can normally be reached on Mon-Thr from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for this Group is (703) 305-5433.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

THY/February 23, 1999


TAE YOON
PRIMARY EXAMINER
GROUP 160